UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/922,424	08/03/2001	Alok Kumar Srivastava	50277-1719	7473

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EXAMINER
TRUONG, CAMQUY

ART UNIT	PAPER NUMBER
2195	

DATE MAILED: 08/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/922,424	SRIVASTAVA ET AL.
	Examiner	Art Unit	
	Camquy Truong	2195	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 May 2005*.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5, 7-9, 13-23, 25-27 and 31-40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5, 7-9, 13-23, 25-27, and 31-40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All   b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 1-5, 7-9, 13-23, 25-27, and 31-40 are presented for examination. Claims

6, 10-12, 24 and 28-30 are canceled.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1, 4-5, 7-9, 13-14, 17-19, 22-23, 25-27, and 31-32, 35-40 are rejected

under 35 U.S.C. 103(a) as being unpatentable over Iba et al (U.S. Patent 5,835,766) in

view of Davies et al (U.S. Patent 5,682,537).

4.   As to claim 1, Iba teaches the invention substantially as claimed including: a

method for selecting a victim to be used during resolution of a deadlock (col. 12, lines

27-34), the method comprising the steps of:

        initially establishing a plurality of resources involved in said deadlock as set of

candidate to be victim (col. 5, line 56 – col. 6, line 20);

performing a second filtering pass that removes candidates from said set based on priorities associated with said candidates (col. 12, lines 35-40, lines 46-48 and lines 62-64);

If more than a single candidate remains in said set after said second filtering pass, then performing a third filtering pass that removes candidates from said set based on runtimes associated with possessory entities associated with said candidates (col. 12, lines 49-52, 53-60 and lines 65-67); and

When said set has been filtered to include a single candidate, selecting said candidate as said victim (col. 12, lines 65-67).

5.   Iba does not explicitly teach performing a first filtering pass that removes candidates from said set based on CAN-BE-VICTIM flags associated with said candidates. However, Davies teaches performing a first filtering pass that removes candidates from said set based on CAN-BE-VICTIM flags associated with said candidates (col. 10, lines 36-38; col. 12, lines 31-51 and col. 15, lines 56-58).

6.   It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Iba, and Davies because Davies' performing a first filtering pass that removes candidates from said set based on CAN-BE-VICTIM flags associated with said candidates would increase the throughput of Iba's system by providing step of performing a first filtering pass that removes candidates

from said set based on CAN-BE-VICTIM flags associated with said candidates to reduce

processing overhead in managing locks in a parallel data processing system.

7.   As to claim 4, Iba teaches a portion of the priority of a given resource is

established statically (col. 12, lines 37-39).

8.   As to claim 5, Iba teaches portion is established based on the type of the given

resource (col. 12, lines 39-40).

9.   As to claim 7, it is rejected for the same reason as claim 1. In addition, Iba

teaches filtering said plurality of candidates based on one or more factors until a single

candidate remains as a candidate to be victim, wherein the step of filtering comprise

filtering each candidate of the plurality of candidates by taking into account, for each

candidate, at least one factor of the one or more factors (col. 12, lines 45-60).

10.   As to claim 8, it is rejected for the same reason as claim 7.

11.   As to claim 9, Iba teaches filtering further includes removing from said plurality of

candidates all the candidates that are associated with possessory entities have been

running for a duration of time that is relatively longer than the duration of time that

possessory entities associated with the other candidates have been running (col. 12,

lines 55-60).

12.   As to claim 13, Iba teaches performing a second pass to filter out any candidates

whose resource priority is higher than the resource priority of at least one of the other

candidates (col.12, lines 46-52);

If more than one candidates is left after performing the second pass, then

performing a third pass to filter out all the candidates except the candidate that has

been running for the shortest duration of time (col. 12, lines 53-60);

Davies teaches performing a first pass to filter out any candidates that have a

CAN_BE-VICTIM flag indicating that one is not candidate for termination (col. 12, lines

31-46).

13.   As to claim 14, Iba teaches filtering based on priorities established for candidates

(col. 12, lines 46-52 and lines 62-64).

14.   As to claim 17, it is rejected for the same reason as claim 4.

15.   As to claim 18, it is rejected for the same reason as claim 5.

16.   As to claim 19, it is rejected for the same reason as claim 1.

17.   As to claim 22, it is rejected for the same reason as claim 4.

18.   As to claim 23, it is rejected for the same reason as claim 5

19.   As to claims 25-26, it is rejected for the same reason as claim 7.

20.   As to claim 27, it is rejected for the same reason as claim 9.

21.   As to claim 31, it is rejected for the same reason as claim 13.

22.   As to claim 32, it is rejected for the same reason as claim 14.

23.   As to claim 35, it is rejected for the same reason as claim 4.

24.   As to claim 36, it is rejected for the same reason as claim 5.

25.   As to claims 37 and 39, it is rejected for the same reason as claim 9.

26.   As to claims 38 and 40, it is rejected for the same reason as claim 13.

27.   Claims 2-3, 15-16, 20-21 and 33-34 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Iba et al (U.S. Patent 5,835,766) in the view of Davies et al

(U.S. Patent 5,682,537) and further in view of Porter et al (U. S. Patent 6,332,023 B1).

28.   As to claims 2-3, 15-16, 20-21 and 33-34, Iba and Davies do not teach a portion

of the priority of a given candidate is established dynamically and portion is established

based on which resources other than said candidate are held by a possessory entity

associated with the given candidate. However, Porter teaches a portion of the priority of

a given candidate is established dynamically and portion is established based on which

resources other than said candidate are held by a possessory entity associated with the

given candidate (col. 3, lines 5-19).

29.   It would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine the teaching of Iba, Davies and Porter because Porter'

portion of the priority of a given candidate is established dynamically and portion is

established based on which resources other than said candidate are held by a

possessory entity associated with the given candidate would allow network resources to

be dynamically reserved.

Response to the argument

30.   Applicant arguments filed on 5/10/05 had been considered but they are not

persuasive. In the remarks applicant argued (1) " Iba or Davies fail to teach selecting a

candidate as a victim for resolving a deadlock is a CAN-BE-VICTIM flag that indicates

whether or not the candidate can be selected as a dead lock victim". (2) "The Applicants

cannot determine that any other passage in Davies describes filtering of victim

candidates for resolving a deadlock based on a CAN-BE-VICTIM flag as featured in

Claim 7. Moreover, the Office Action does not suggest, and the Applicants cannot

determine, that anything in IBA teaches or in any way suggests a feature that

corresponds to using a CAN-BE-VICTN flag for filtering deadlock victim candidates". (3)

nothing in IBA or DAVWS shows or suggests that resources have priorities, much less

that the priority of a resource involved in a deadlock is in any way relevant in selecting a

deadlock victim from a plurality of candidates to be said victim. The priorities discussed

in IBA are priorities of transactions, not the priorities of the resources accessed by those

transactions. For this reason, IBA and DAVIES cannot possibly show or in any way

suggest the feature of Claim 8 of filtering by removing from the plurality of victim

candidates a candidate whose resource priority is higher than the resource priority of at

least one other candidate".

31.   Examiner respectfully traverses Applicant's remarks:

A.   As to point (1), Davies teaches if <u>its time stamp indicates</u> (flag) that it has

been queued longer than the Request Time-out Period, an entry is placed in the

Queued Request Packet and will be sent to Deadlock Detector (col. 12, lines 43-46).

B.   As to point (2), Davies teaches the Queued-Request list is searched

(filter). The Queued Request list begins at the head of the list and proceeds until a Lock

Request is encountered whose Time Stamp indicates that its time in the list is less than

the request Time-out Period. Those entries will be sent to the Deadlock Detector (col.

12, lines 32-46).

C.   As to point (3), Resource as define in claims can by anything (i.e. file,

database, transaction), therefore, transaction in Iba meets the resource definition. Iba

teaches when a deadlock is generated between global transactions, first by applying the

first standard, a global transaction having lower priority is selected to be canceled (col.

12, lines 46-52).

32.   **THIS ACTION IS MADE FINAL**. Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

Conclusion

33.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Camquy Truong whose telephone number is (571) 272-

3773. The examiner can normally be reached on 8AM – 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-3756.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR of Public PAIP. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIP system, contact the Electronic Business Center (EBC) at 866-217-9197(toll-free).

Camquy Truong

July 26, 2005

MAJID BANANKHAH
PRIMARY EXAMINER